IOWA PRELIMINARY ANNUAL WEATHER SUMMARY – 2010

General Summary. Iowa temperatures averaged 48.4º or 0.6º above normal while precipitation totaled 44.81 inches or 10.73 inches above normal. This ranks as the 64th warmest and 2nd wettest year among 138 years of state records.

Temperatures. The year got off to the coldest start since 1979 with temperatures averaging 16 degrees below normal over the first 12 days of January. Actual temperatures fell as low as -37° at Spencer Airport on January 2 while wind chills were reported as low as -53° at Estherville. Colder than usual weather was the rule for most of the period through March 5. There was little break in the cold through the winter of 2009-2010 which allowed the near-record December 2009 snow cover to persist well into March. Only January 1979 (40°) and December 1983 (40°) recorded a lower statewide maximum temperature than January 2010 (45°) or February 2010 (42°). Heavy early season snow and lack of significant warmth allowed an amazing 89 consecutive days with a statewide average snow cover of five inches or more (December 9 to March 7). However, a quick transition to warmer than normal weather arrived in early March and persisted through most of the spring. Iowa experienced its warmest April since 1981 and warmest spring since 2000. The warmth continued through the summer and the fall. Despite the lack of extreme heat (highest temperature for the year was 98° at Ankeny on July 14) Iowa recorded its hottest summer since 1988. Persistent rainfall brought high humidity and allowed official heat indices to reach or exceed 110° on July 14 and 23 and August 3, 8 and 9. Ames reported the highest heat index with 115° on July 14. The fall months each averaged warmer than normal prior to the year closing with a colder than usual December.

Precipitation. 2010 was a wet year for most of Iowa. The statewide average precipitation was second only to 1993 among 138 years of records. Every month except October saw precipitation exceed the median but the wettest period was from June through September. An unusually deep and moisture-rich snow pack persisted into March but melted fairly quickly in response to frequent light to moderate rain and higher temperatures during the second week of March. Minor to moderate flooding occurred nearly statewide during March. Relatively high evaporation rates resulting from higher than normal temperatures minimized flooding during April and May although heavy rains did fall over parts of southeastern Iowa. Rain was very frequent during June when a new record was set for statewide average precipitation for the month (10.34 inches, old record of 10.33 in 1947). Rainfall was fairly evenly distributed through the month and across the state, thus helping to reduce the magnitude of flooding during June. However, a generally wet weather pattern continued into July and in a few areas into August and September. Excessive rains, particularly on the night of July 22, produced major flooding along the Maquoketa River and washed out the Lake Delhi dam. A period of three consecutive nights of locally heavy rain also soaked central Iowa from August 8-11 producing record or near-record flooding in the Ames and Des Moines areas and locations downstream. Locally excessive rains continued in September, particularly over parts of south central and southeast Iowa. However, a very welcome dry period began in late September and persisted into the second week of November. This allowed the 2010

harvest to be completed at a very rapid pace in extreme contrast to 2009 when Iowa endured its coldest October since 1925 and wettest October since 1881. November was fairly quiet excepting for an area of heavy snow in west central and northwest Iowa on November 11-13 when 14 inches of snow fell at Emmetsburg. Finally, December saw a very persistent storm track which brought frequent snowfall to northern and northeastern Iowa and very little precipitation to the south. Annual precipitation totals varied from 29.24 inches at Onawa to 66.38 inches at Rathbun Dam. The Rathbun total has been exceeded only once in the historical record (74.50 inches at Muscatine in 1851). A few scattered locations saw annual precipitation totals that were below normal with Mason City reporting the largest deficit of 3.36 inches. Rathbun Dam saw the largest surplus with 29.73 inches. A few record annual totals include:

City	2010 Total	Old Record	Period of Record
Pella	61.10	54.39 in 1993	76 years
Oskaloosa	58.53	53.84 in 1951	120 years
Ankeny	57.92	53.53 in 1993	57 years
Creston	57.91	56.65 in 1973	101 years
Washington	57.78	53.68 in 1965	125 years
Grinnell	57.66	56.35 in 1881	108 years
Mount Ayr	57.26	55.71 in 2008	108 years
Newton	57.13	52.77 in 1993	93 years
Albia	56.92	56.18 in 1973	109 years
Indianola	56.31	54.58 in 1993	116 years
Keokuk	56.30	56.10 in 1973	133 years
Oelwein	51.12	48.46 in 1961	81 years
Audubon	50.01	48.53 in 1973	108 years
Fort Dodge	49.34	47.27 in 1993	111 years
Sanborn	45.76	43.59 in 1951	93 years
Hawarden	44.33	40.17 in 1983	81 years
Sioux Center	42.99	39.74 in 1983	96 years

Tornadoes. The tornado season got off to its latest start in Iowa since 1978 with the first confirmed tornado on June 1. June was an active month for tornadoes with 27 reported. However, the rest of the season brought only 6 more storms. The final tornado came on August 10, marking the earliest end to the tornado season since 1996. A very strong EF-4 tornado wreaked havoc over a 13 mile path near Little Rock and Sibley on the evening of June 25. This was Iowa's strongest tornado since the EF-5 that struck the Parkersburg area on May 25, 2008 and the only 2010 storm to exceed EF-2 intensity.

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